THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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ON BACTERIOLOGY.

Bacteriology, so far as practitioners of veterinary medicine and surgery are concerned, may be defined as the study of microscopical organisms which cause disease. It is most essential that we should all know the part these organisms play in the production of disease, and it is also necessary that our teachers and advisers should understand how to detect and recognise them. The main facts of the science as applied to medicine are not difficult to learn, and we may rest contented to accept them from experts just as we accept the facts of chemistry. Between a knowledge of the *results* of bacteriology and a knowledge of its *methods* there is a wide difference, and we are strongly of opinion that it is quite unnecessary for a medical practitioner to be a bacteriologist.

That the science has done an immense amount of good in elucidating practical problems in pathology no one denies; that it will, in the future, do even more to render our knowledge of morbid processes clearer and more exact is also admitted, but there is a dangerous tendency in these days to over-estimate the value of the work and the importance of the workers. Dr. Klein's errors on the eruptive diseases of cows' udders never could have been promulgated by a man whose clinical knowledge equalled his bacteriological learning, nor could they have won the wide and rapid acceptance they did, had not practitioners placed the new science on an eminence it had no right to. Bacteriology is in its infancy—it counts its experts by tens but its pretenders by hundreds. Hardly a disease exists in which some imaginative person has not discovered a specific causal organism, and the guileless practitioners accept their statements as though picking out a bacillus was as easy as sorting out papers from a basket. There is only one safe rule in bacteriology—never to believe any new discovery until it has been verified by other workers—and not even then unless the corroborating bacteriologist is a member of a school or clique opposed to that of the original discoverer. When a French bacteriologist of repute corroborates the work of a German we may accept it as probably correct, and when any Continental worker approves the discovery of a Briton, it is probable that not much error exists. As to American bacteriologists a respectful doubt may always be entertained.

Clinical observation is, and always will be, the most reliable method of recognising disease, and this is not to be learned in a laboratory. Neither is bacteriology to be learned in a medical practice or to be pursued as a branch of medical education. Practitioners desire to know the results of chemical and bacteriological research, but if they are wise they leave the research to experts who have the training and apparatus, and other conditions necessary to attain exactness. Very few men have yet attained to such expertness that they can positively recognise the specific organisms of disease when separated from the morbid tissues in which they are found, and practitioners may safely rely upon the naked-eye appearances of most conditions in preference to the disclosures of the microscope. When the scientist has found his organism, separated it from others, and cultivated it in various ways he has still one test more to prove its identity-- he has to inoculate an animal and produce the original disease. All this is very necessary to identify the organism, but it is not necessary to diagnose the disease. If we are able to recognise the disease when artificially produced surely we are equally capable of diagnosing it when naturally presented, and our diagnosis is more easy and more trustworthy if we have a large clinical experience than if we have chiefly an acquaintance with disease in books and laboratories.

We write this not to throw discredit upon bacteriology but to induce practitioners to believe that their own clinical work is quite as good and valuable as the work done in laboratories. We most of us are apt to look with too much favour upon startling discoveries, and we value too highly the man who professes to have found something new. Careful clinical work is the more useful and more reliable line to follow.

Below we give an extract from last week's *Lancet*, and would just ask—if the anthrax bacillus is not capable of recognition, what organisms are?

"In connection with the case of "Acute Perforating or Ulcerative Aortitis in which the Bacilli of anthrax were found," reported in our issue of Nov. 7th, it was unfortunate that the diagnosis rested entirely on a mere microscopic examination of the tissues and of the contained bacteria. As pointed out by a correspondent, there are several organisms which, in the tissues, bear a very close resemblance to anthrax bacilli, and in no case is it desirable to place much reliance on mere morphological characters. It is now a well-known fact that micro-organisms, differing in most important points, may have close morphological resemblances, so that, unless cultivation and inoculation experiments are made, even where the microscopic diagnosis appears to be definite enough, it is an exceedingly dangerous foundation on which to base any very definite statements. Several observers have found in certain forms of pyæmia, and even of septicæmia, organisms very similar to the anthrax bacilli, and until cultures have been made and their growths compared with those of anthrax, and the effects of inoculations on animals are also compared, it is scarcely safe to take up the position that these organisms are the bacilli of anthrax.

CASES AND ARTICLES

VOMITION AND RUPTURED STOMACH IN THE HORSE.

By O. Trevor Williams, M.R.C.V.S., Llangefni.

Thinking these cases will be of interest to the profession, as they were to myself, I make a few remarks about them.

Case No. 1.—On April 16th I was requested to visit a horse suffering with colic. When I got to the place I found the horse lying down full length, head and legs extended, and the body steaming in perspiration. Now and again there was a spasmodic contraction of the inferior cervical muscles, and sometimes the head was raised up and placed in a natural position.

I got the horse up to his feet, but could not resist his going down again, and while down this time, the abdominal pains increased, and were accompanied by rolling and kicking furiously. Failing to give him a draught I gave a hypodermic injection of *morphia et atropia* after which he stood quiet for three hours. At the end of this time the spasms of the neck recurred violently, and a large quantity of slate coloured, offensive, milky stuff commenced to run through the nostrils and mouth, which gave great distress to the breathing. On auscultating the trachea the gurgling, rattling sound showed that this fluid had gained entrance through the larynx, and was causing partial suffocation. I performed tracheotomy and the breathing improved for a time, owing to the stream of vomited fluid passing into the trachea but out through the opening I had made. By this time all the pains (abdominal) had left him, but he had a haggard expression of the face; mucous membrane and conjunctiva deeply congested, pulse imperceptible, legs and ears deathly cold, temperature 104·4 F. The discharge from the nose was almost as much when the spasms were absent—only that the horse did not show any pains.

About 4 a.m. he seemed better, and the vomition had stopped, but only to gain strength, as in less than 15 minutes the spasms and vomiting commenced again with such virulence that the horse was dead through suffocation in another 15 minutes. I should have plugged the trachea above the opening only that the horse was so restive by this time that no one dare go to him.

Post-mortem Examination.—On opening the abdomen the enormous size of the stomach was most noticeable. It was as full and tense as a newly-inflated football. The stomach was twice the ordinary size of a healthy one, and before opening it I felt almost certain that the fullness was due to gas, but it contained only the same offensive slate-coloured fluid which had been vomited. The intestines were slightly congested all through, but perfectly free. On opening the œsophagus, a few bots were seen here and there sticking to the walls. In the trachea I counted five bots from the larynx to the lungs. The lungs were full of this vomited matter. The cause was too much newly-thrashed oats, indigestion, and over-distention.

Case No. 2.—May 14th.—An aged white mare suffering with colic. She did not show any extraordinary symptoms—only pawing with her fore feet, and turning round in the box, trying to go down now and then but failing.

I administered an ordinary colic draught of ol. lini., tinct. opii., and chlorodyne; the pain slightly subsided; in an hour I gave hypodermic injection which sent her to sleep, and I left her. In the morning, at 9 o'clock, a lad came to say that the mare was just the same. I then went to see her, but the farmer meeting me in the road and saying the mare was dead, I went with him to the farm, and made a *post-mortem* examination. When the abdomen was opened a stream of water ran out. The right portion of the stomach—the villous, or true digestive part—was of an enormous size, and presented a fine network, or muslin-like appearance, so that the food could be seen through it. The contents were dry and green. I may say here that the day previous the mare had been grazing fresh clover, and gorged herself. The stomach was carefully removed by myself and a butcher, but we failed to take it out without breaking this thin enlarged portion. I took a small piece and washed it clean, when the network, or muslin-like appearance, was very distinct.

Case No. 3.—On the 19th inst. I was called to attend on an in-foal mare with colic, in good condition, and 6 years old. She was working at the plough in the morning, and on coming home took a drink of water from the pond as usual. She ate her morning feed before going out again to work, but refused to eat when she next came in. I saw her first at 5.30 p.m,, she had had a pint of brine, and a draught from the chemist. I gave her a hypodermic injection, followed in an hour with tinct. opii. ʒii, spirit æther nit. ʒii, ol. lini. ʒx; but no relief. Enemas were given every now and then. While down she would prefer to lie on her back, and would do so for a long time. She stopped lying and rolling about midnight, only turning round in the stall. About 1.30 she commenced to shiver until the sacks were falling off her back, and trying to urinate four or five times, passing a small quantity every time; respiration became difficult, and temperature ran up to 105·2 F.; vomition once or twice of similar stuff to Case 1, but in very small quantity. The farmer was anxious to know the cause of the great shivering, and I told him I could not say, unless ruptured stomach had taken place. The mare was at this time covered over with cold perspiration. The shivering subsided in about an hour, and she then stood quiet until death, two hours later, when she turned round, fell, and died without a kick.

Post-mortem.—When the abdomen was opened a stream of water mixed with blood ran out. The stomach, in this case, was exactly the same as No. 2—only that the network had given way somewhat more. I should like to know whether, could the stomach go through such great change in the short

time the mare suffered pain, say, 15 to 16 hours; or could it have started days or weeks previously without interfering with her health and feeding? I am inclined to think that she could not. I attribute the cause here to too much oats (fresh) with wet chaff. which caused paralysis and atrophy of the walls.

I cannot understand—Why did mare No. 3 shiver more than mare No. 2, and both show the same *post-mortem* lesions; also No. 3 lay down on her back, No. 2 did not; No. 3 vomited, No. 2 did not?

I hope these remarks will bring me some light on these cases as regards cause and pathology.

STRICTURE OF THE FLOATING COLON.

By J. H. Parker, M.R.C.V.S., Stow-on-the-Wold

On Sunday, Aug 23rd, we were asked to look at a chestnut cart colt, the property of a local butcher and farmer. which was stated to be very ill, and I was instructed by my principal, Mr. W. H. Verney, M.R.C.V.S., to take the case in hand. I found the colt standing in a loose box, with the hind legs stretched wide apart, nostrils dilated, respirations 50 per minute, pulse 107, temperature 106 (per rectum), superficial temperature irregular, and appetite suspended. At a first glance I thought there was some pulmonary mischief. but closer observation showed the respirations to be purely thoracic. while the movements of the abdominal muscles were as limited as possible. Auscultation of the chest, with the exception of increase in frequency of the respirations and heart-beats did not reveal anything abnormal. Abdominal auscultation disclosed a good deal of rumbling and gurgling as if the intestines contained a considerable quantity of fluid which was being tossed about by their vermicular movements. I was informed that he occasionally gave a look round towards the left side, and seemed very stiff behind. On causing the animal to move which he did very reluctantly I noticed that he brought the near hind limb forward with a circumductory movement somewhat similar to the action seen in a cow with severe mammitis in the left quarter. I next examined the scrotum and percussed the left side of the abdomen neither of which seemed to cause him any inconvenience. As the fœces were normal and of good consistency I did not make a rectal examination.

Considerably puzzled by the above symptoms, I ordered the animal to be fed on sloppy,easily digested food, and treated him with febrifuges, with a view to reduce the high temperature and await something more definite to account for and localise the organic changes which were evidently taking place somewhere in the abdominal region. In a few days the colt's appetite improved, the temperature fell to 104, and the pulse to 60, and in this condition he continued till the evening of the 8th of September, when word was sent along to the effect that the colt had become suddenly worse. I found him lying this time; with his hind legs stretched out, and from the way he was "blowing" evidently in great pain. His pulse and temperature were the same as on the last visit. We got him up on to his feet and on making him move this time the circumductive movements of the near hind were considerably increased, and scrotal examination showed a hard elliptical tumour, situated high up in the near sac, and close to the external inguinal canal the manipulation of which seemed to cause the animal excruciating pain; and to the development of this tumour, which was evidently attached to the spermatic cord, we attributed the pain. As there was no disturbance as yet in the excretions we did not suspect anything further, we then ordered hot fomentations to the scrotum, followed by the rubbing in of a stimulating liminent. The tumour now rapidly developed and on the 13th of September it broke down into pus, about a quart of which issued from the orifice (at the seat of castration), which though laudable in appearance was of a very offensive nature. We inserted an antiseptic tent, and kept the wound open for a week, by which time the pus seemed to have drained off, and the thickening of the spermatic cord had disappeared; the wound was then allowed to close. The circumduction of the limb also disappeared, the colt began to lay on a little flesh and he was turned out to grass to take his chance. I saw him in the field a fortnight afterwards when he seemed to have made considerable improvement although his pulse still kept up to 50 and the temperature to 102. I advised the owner to dispose of him which he did to a neighbouring farmer (who knew the history of the colt). After going to his new home the colt kept on improving and his owner thought he saw a £10 note in him. However on the 21st of November he sent up word that the colt had got "a bad stoppage" and wished him to be seen immediately. I found him this time blowing like a steam engine, with his nostrils dilated and nose poked out, very anxious expression of the face, localized clammy perspiration of the abdomen and thighs; pulse 70, the impulse being quite distinct; and the artery was hard and wiry, temp. 104⅕; he was stated to groan and strain occasionally. I then made a rectal examination and was surprised to find my hand arrested about two feet from the anal orifice by a sudden constriction and apparent closing of the bowel, through which I could not as much as pass one of my fingers, and which on touching caused the poor brute to strain violently, during which he groaned, and his whole frame quivered. Removing my arm I gave him a glyster of a couple of quarts of warm water containing an ounce of tinct. opii. which seemed to allay the irritation. We then attempted to drench him with a pint and half of ol. lini. contaning an ounce of sol. belladonna; but on raising his head above the ordinary level he seemed to suddenly lose all power of muscular co-ordination,and fell with a bang backwards on the off hind quarter. I managed to give it him on the ground. We got him on to his feet again, and to give him as far as possible an euthanasy I ordered his abdomen to be enveloped in a dry blanket, and set a man at each side to iron the blanket with heated laundry irons for an hour which seemed to relieve him a little. Giving an unfavourable prognosis, and leav-

ing a sedative draught to be given in an hour (if down), I asked the owner to kindly send word if he died, which he did in the afternoon, when I made a *post-mortem*, in which I was kindly assisted by Mr. F. A. Verney. We found, after removing the skin, the musculature seemed well developed, and the body well nourished. On opening the abdomen about a couple of gallons of sero-sanguineous fluid escaped, and general peritonitis was present. On removing the bowels we found near the termination of the floating colon a distinct stricture about 3 inches in length; and on the upper part of the bowel, in between the two layers of mesentery, what appeared to be the remains of an inspissated abcess, the walls of which were mottled, being amber coloured at one part and dirty white at another. The bowel at this part showed considerable thickening in the muscular and serous coats, and the mucous coat, with the exception of being thrown into longitudinal rugæ, was normal. The walls of the abscess in the mesentery were quite gritty on section, and it appeared from its fibroid organisation to have been there for a considerable period. Moreover, the mesentery surrounding this part was quite black, whereas that at the most removed parts was only red, so that it would seem as if the peritonitis had commenced at and radiated from this centre. Behind the stricture the bowel was quite empty, but in front of it full of solid ingesta which had been arrested in its course by the stricture. The blood was of tarry consistence, and the left spermatic cord was considerably enlarged, and seemed as if it had become metamorphosed into a dirty grumous looking form of fibrous tissue. The lymphatic glands, with the exception of a little darkening in colour, did not show any pathological lesions. The thoracic viscera, heart, lungs, etc., were apparently healthy.

From the character and organisation of the abscess in the mesentery, it seemed to me that its formation was the cause of the high temperature and increased frequency of the pulse in the first instance; at the same time an abscess was forming in the spermatic cord which was got rid of by bursting into the scrotum: and that the mesenteric abscess became inspissated by absorption of the liquor puris, whilst the remains of the abscess acting in the form of a foreign body kept up a slight though constant irritation in the wall of the viscus, resulting, as we all know, in the proliferation of a new tissue, which on ageing contracted, somewhat after the form of a cicatrix in a wound, or the contraction of fibrous tissue of old standing in a cirrhotic liver, and this new tissue formed in the wall of the bowel gradually contracted till it closed the lumen, and the impediment at this point caused peritonitis which was the immediate cause of death.

Use of Methylated Spirit.—In reply to a letter asking the Board of Inland Revenue if it would be legal to make "Friars' Balsam" and Compound Tincture of Myrrh" with methylated spirit to sell as "for external veterinary use only," the Board say the preparation of such tinctures with methylated spirit would not be legal, and that the suggested label would not prevent legal proceedings being taken.

THE ROYAL VETERINARY COLLEGE: A Sketch of Its Progress.

(Continued from p. 236.)

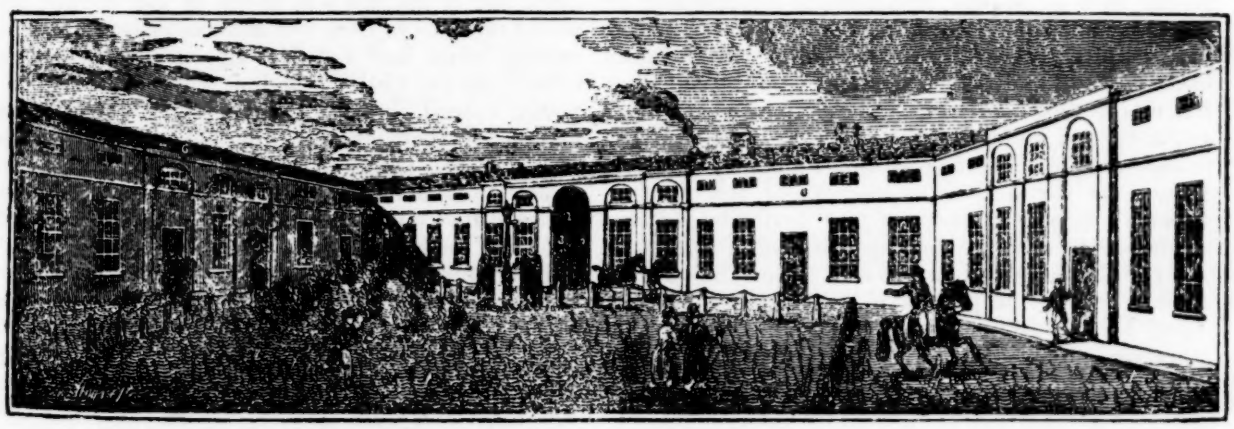
During the first twenty-five years of this century the College passed a very uneventful existence—turning out students with a certificate, increasing its reputation as a teaching institution, and slowly building up a veterinary science to guide the art. Although the staff added nothing to our literature, some of its graduates did. Blaine published his "Veterinary Outlines," Percivall his "Lectures," Bracy Clark wrote on the horse's foot, and White produced a work on "Farriery," which went through a number of editions. Professor Coleman wrote nothing after his book on the horse's foot, and we do not know any special work or research of a scientific nature initiated by him at the College. The Assistant-Professor Sewell seems to have done a little more. He introduced the operation of neurotomy for incurable foot lameness, and deserves credit for its practical adoption, although it was not an original discovery. Moorcroft practised the operation in 1800, and one of the elder Fields long afterwards mentioned his participation in the operation. Navicular disease was recognised as a cause of foot-lameness, and Coleman had, previous to 1816, added to the College Museum a specimen of a diseased bone. To Turner, however, belongs the credit of discovering that the disease was the common cause of chronic foot lamenes. He wrote a paper on the subject as early as 1816, at which time Coleman looked upon it as a rare condition, and believed the well-known symptoms were due to "contraction." To Assistant-Professor Sewell we are indebted for the operation of Peri-osteotomy, which he recommended in the treatment of splints. For the use of sulphate-of-copper as a remedy (then called cure) for glanders the Professor obtained the special thanks of the Governors, and a pecuniary reward, which was not undeserved; for although he had not, as was at first thought, discovered a cure, he had undoubtedly carried out a careful series of experiments. In 1816 Sewell visited the Continental veterinary schools, and submitted to the Governors of the College a report on his travels. The report certainly does little credit to his powers of observation, being a mere bald catalogue of the stables and buildings and horse shoes which he saw. Not a single note worth remembering, bearing upon veterinary science or teaching, is to be found in it. If Sewell's Continental tour taught him anything it was perhaps the use of setons, which he employed in practice to a very large extent. A very favourite application of the seton in the College practice of his time was the insertion of one through the frog for foot-lameness—a practice which was continued down to recent times by the oldest living practitioners.

In 1825 the teaching staff of the College was increased by the appointment, as Assistant-Demonstrator of Anatomy, of Mr. Richard Vines, who had joined the Institution as a student the previous year. Vines appears to have been an honest worker, with rather more taste for physiology than anatomy.

His writings indicate a desire for scientific enquiry somewhat beyond his intellectual capacity ; and his chief work, "On the Blood," is a curious collection of hypotheses sententiously stated, but based on very superficial observations.

In 1826 Mr. F. Cupiss, of "Constitutional Ball" notoriety, retired from the office of Clerk and Dispenser at the College, and was succeeded by Mr. J. T. Morton, who had, after serving his apprenticeship to a chemist and druggist in Devonshire, held a situation in the house of a manufacturing and wholesale druggist in the City. Morton very soon evinced considerable interest in the action of medicines upon the horse, and obtained leave to administer drugs occasionally, with the direct object of noting their action. Full proof of his perseverance in this direction is said to be preserved in the College archives, in the form of manuscript notes, filling three large folio vols.

When we arrive at the year 1828 we reach more certain data as to the College and its graduates. In this year two monthly periodicals made their appearance —*The Farrier and Naturalist* and *The Veterinarian*. The former only lasted two years, and was conducted with great rancour in open opposition to the College. The undisguised contempt with which it spoke of the Institution, and the undignified and scurrilous language which it applied to all its antagonists render it a very untrustworthy guide to the events which it chronicles. Its first volume contains as a frontispiece a drawing of the College taken from inside the quadrangle. All but very recent students will recognise the view of the buildings, of which we append a copy.



VIEW OF THE ROYAL VETERINARY COLLEGE,
From Vol. I. of The Farrier and Naturalist, January, 1828.

The Veterinarian was a very different journal, and although opposed to some of the methods of the College, its objections were stated fairly, the reforms it desired were announced in temperate language. There can be no doubt that at this time the College had failed to give satisfaction to the veterinary practitioners whom it had educated. Coleman had lost his early enthusiasm, and illness often incapacitated him from work. He failed to appreciate the advances made by leading practitioners who had long left the College, and he declined to see that the standard of tuition given thirty or forty years ago had become insufficient. Coleman was an autocrat and conducted the College exactly as he thought fit. The Governors trusted him implicitly, and his friend Sir Astley Cooper—chief of the Veterinary Examining Board—supported him in the most faithful manner whether he were right or wrong. The great source of disagreement between the College and the profession arose over the Examining Board, which consisted entirely of medical men, assisted by Professors Coleman and Sewell. Meetings were held, interviews with Coleman took place, and deputations waited upon the Governors. Complaints were made that students after only five or six months at College were granted a certificate by the medical examiners and sent out to practice. It was stated that such ill-taught men brought discredit upon the profession, and that a longer course of study should be insisted upon and that some practitioners of the veterinary art should be added to the board of doctors who decided that candidates were fit to practice. Coleman pretended to accept the proposed reforms, but the Governors of the College referred the matter to the Examining Board, who declined to act with any veterinary examiners. A proposal was made that the Board should consist of two sections—medical and veterinary—which should examine separately, but the Governors very properly declined to accept this arrangement as impracticable; still they gave no countenance to the very practical and needful alternative of a board of joint medical and veterinary examiners. The College authorities clearly looked upon the proposed reference as an attempt on the part of a section of practitioners to intrude upon their sphere, and to interfere with the arrangements of the institution. The practitioners honestly believed that the profession was being injured by the methods of the College, and it was more than suspected that the opposition to reform was due entirely to Coleman, backed by Sir Astley Cooper. The agitation did some good; a promise

was made that no student should be examined until after, at least, one year's study. Within the College no improvement was made in the teaching, but the efforts of extra-mural teachers were not discouraged Youatt held classes at his school in Nassau Street where students might attend lectures on the Anatomy, Physiology, and Pathology of the Ox, Sheep, and Dog. Charles Spooner opened a School of Anatomy in premises nearly opposite the College about 1830, and was shortly after joined by Morton who lectured on Pharmacy and Materia-medica. To these men and to W. Percivall, who published the first systematic treatise in English on the *Anatomy of the Horse*, the veterinary students in "the thirties" owed a deep debt of gratitude. The teaching of veterinarians outside of the College walls combined with the classes gratuitously opened by medical teachers to veterinary students enabled young men to attain considerable proficiency, in spite of the utter neglect of complete and systematic instruction within the College. The disagreement between the practitioners and the College subsided, but was not extinguished. The evils of insufficient teaching and defective examination were felt and acknowledged more deeply and widely by the profession as the active opposition to the College became less pronounced, and the first hint of real professional independence is to be found in a letter to *The Veterinarian* in 1830. "An Old Veterinarian" writes proposing to memorialise Government to establish a Royal College of Veterinary Surgeons independent of any school. This, he argues, would leave the St. Pancras school to arrange its own methods, whilst the profession could then protect itself against the ignorance which discredited its members, as the examination would then be strictly *veterinary*. This seems to have been the original germ from which issued the Charter of 1844

In 1834 the total number of veterinary surgeons on the published list was 624, and the number of students at the College had increased from thirteen, at the time of Professor Coleman's appointment, to about seventy.

In 1835 Coleman was presented with his bust in marble, and at the ceremony and the dinner which followed peace and goodwill seemed to reign supreme. The students were no whit more enthusiastic and generous than were the practitioners who came from all quarters to honour their venerable and respected teacher. In the following year Professor Sewell, who had then been a devoted follower and colleague of Coleman for forty years, was presented by the Members of the London Veterinary Medical Society with a service of plate; Coleman made the presentation and Sewell replied, both the professors referring to "the cordiality of feeling and unity of purpose which existed between them."

Nothing eventful is recorded now until 1838, when the English Agricultural Society was formed under the patronage of the greatest and richest in the land. Amongst the "resolutions and purposes" of the Society was one "to take measures for improving the veterinary art as applied to cattle, sheep and pigs." On December 18th, at the half-yearly meeting of the Society, a passage in the Report was as follows: "Application has been made to the Governors of the Veterinary College, stating our wish to assist in directing attention to the diseases of cattle and sheep by contributing from our funds," About six months later the *Veterinarian* announces that "the English Agricultural Society and the Governors of the College, after various interviews and much opposition from *one quarter* (Coleman?) have agreed to provide for the study of other animals than the horse." This is the first indication of progress made by the school in deference to outside suggestion.

In an editorial, to be found in *The Veterinarian* of July 1st, 1839, we read: "During a considerable portion of the season just closing both the Professors have been seriously indisposed. Week after week not a lecture was given in the theatre, nor would there have been one demonstration in the dissecting room had not Mr. Spooner fortunately resided near the College, and, at the request of Professor Sewell, devoted the whole of his time to the anatomical instruction of the pupils and the treatment of the patients." This *indisposition* in Professor Coleman's case terminated fatally, and the veteran died on July 14th, before any effect could be given to the proposed reforms.

Undoubtedly Coleman ruled the College as an autocrat, and was personally responsible for its successes and its failures. His last twenty years of office contributed little, if anything, to veterinary science or art, but much may be forgiven him for the good work he did in his earlier days. He directed his efforts chiefly to the social aspect of the profession, and he was not unsuccessful.

(To be continued).

VETERINARY EDUCATION.

By R. Rutherford.

I am afraid Mr. Raymond's article in your issue of last week on "Education" is very much a repetition of what one hears and has heard on this subject for some time back, nevertheless we are indebted to him for having opened up the subject controversially, at a time when it may be presumed our Council are engaged in its consideration. Whenever a few gentlemen of so-called advanced opinion meet, this subject is almost certain to crop up, but why it should do so, I must confess I entirely fail to see. Are our recruits worse educated than they were say 10, 15, or 20 years ago, or in other words does their education now fail in enabling them to fulfil the requirements of the profession at the present day? I deny it and have every confidence in asserting the contrary. Ask the teachers of any or of all of our four schools, and they will at once tell you that as a lot the men of now-a-days are, from an educational point of view, immensely in advance of what they were a few years ago. The middle classes, from whence we draw the most of our recruits, are, from the

mere fact of the youth of a class below being able to obtain as part of the state policy of this country a very superior education, compelled to give their lads a still higher and more advanced education if they mean them to keep their relative positions in the coming future. Many lads on joining the colleges produce educational certificates of a very high order, and I believe I am right in saying that comparatively few are rejected in the preliminary test, more, I believe I am right in saying that so far as Scotland is concerned, lads leaving our higher schools, may obtain certificates which show that they possess educational requirements much in advance of what is required of them by the Royal College. The point is then, is the educational test sufficient, I believe that it is and all I would like to see as regards it, is that the English examination should be a thorough one. I am persuaded that many a lad may have a smattering of Latin, French, or German, subjects that are much made of, who is not by any means even tolerably well up in either language, and of whom it might be said it would be better for them if they knew their English better—I write this of a few. For my own part I would, so far as this profession of ours is concerned, rather have our students thorough English scholars, than anything else. Ours is an English-speaking country and the outside fields to where our men drift, are, with the exception of India, peopled by English-speaking communities. Surely no one will assert that a lad must be able to speak and write certain languages, or be a mathematician to become a good veterinarian. I should think not. I do not mean to say that a lad is any the worse for being a French, Latin or German scholar, on the contrary, he is all the better for it; but I do say that for our profession at the present time, it is of infinitely more value that he be a good English scholar. If, therefore, we are to continue our preliminary educational test, let it be a uniform one—let the questions be set by one body appointed for the purpose, and the answers in writing become the property of the Royal College. Let the greatest value be attached to the examination in English grammar, and composition, and to higher arithmetic. Let Foreign languages be optional but not displacing or making up for any deficiency in English, a deficiency which now-a-days should not exist, and which when it does should bar for the time being a student's entrance to any class.

I am inclined to enquire whence the reason for this cry of "Raise the educational standard?" Is it because it has been found that the education of the graduate of the present day is insufficient to fit him for filling his place in society, or to enable him to grasp the subjects taught in the schools, or stand the test of examination? If so, I must, except in a very few instances, deny the proposition; and it is just to these exceptions that an English examination, as a preliminary test, would especially apply. One frequently hears it said that the graduates of the present day are not so good as they were—say twenty years ago, and, perhaps, upwards of that period; that they are not so practical, and in short do not so readily fit into the rank and file of the profession. In my opinion it is doubtful if the assertion is a correct one, and those who make it are apt to forget the difference in the conditions between now and the period mentioned. It must be borne in mind that the number of graduates are enormously increased, and that as veterinary surgeons are largely born, and not made, it follows the number of failures must be correspondingly greater. Our graduates are now drawn as recruits from all ranks of society, and not, as at one time, where they were largely the sons of practitioners of one kind or another, and were otherwise drawn from the ranks of those who were more or less directly interested in the lower animals, and of whom it might almost be said, they were in a manner born to the profession, and from their earlier years had some acquaintance with its requirements. We get many such men yet, and from among them it is usual to find we get our readily adaptable veterinarian, always provided he does not enter college in the belief that he already knows everything, as some few, unfortunately for themselves, do. Among the others we see many brilliant examples of graduates who during their pre-college career had no special opportunities, subsequently filling high positions, not only as so-called "only theoretical men," but as highly successful and respected practitioners. No doubt there are failures, many of them, men who just succeed in scraping through their examinations, but who fail to afterwards satisfy the public. Of these it is that there is some room to talk or write about; it may be that they are educationally deficient, to some this may apply; but to the majority, I am afraid, it does not. More often I think they fail because they have chosen to enter a profession for which they are not fitted; not generally for want of educational ability, but from want of interest in the profession, from laziness, dulness, or from a viciousness of habit that would unfit them for recruiting the ranks of any profession where activity, intelligence, and no small degree of love and enthusiasm for such is necessary. For those having plenty desire to acquire a practical knowledge of the detail of the profession, but who have not had the time or opportunity I should like to see something done—opportunity given by the school, or taken outside by the students, either during their College career or between terms, for their seeing practice. I do not like the idea of making pupilage compulsory, but I would like to see it strongly recommended by the Royal College and by the schools, supported by a line of examination which would open the eyes of the candidate to the necessity of his becoming better acquainted with what I may call the every-day practice of veterinary medicine and surgery—when I say that, I do not imply that a student should be expected to exhibit a knowledge even approaching that of his examiners, but there are some things he ought to know and make no mistake about. To steer clearly between these lines is, to my mind, what the examiners have to do, and I think it may be very safely left for them to do so.

Now, as regards prolongation of the course of professional study, I am, as you are already aware,

(Concluded on page 294)

SIX SCHEMES FOR ALTERATIO

The following are contributed

I.	II.	III.
A Examination— 1. Anatomy of Horse, Ox, Sheep, and Dog (Bones, Ligaments, and Muscles of the Limbs). 2. Chemistry and Materia Medica. 3. Hygiene (Stable Management, Food-Stuffs, Grasses, and Poisonous Plants).	**A Examination—** 1. Anatomy of Domestic Animals (Bones, Ligaments, and Muscles). 2. Chemistry. 3. Materia-Medica and Pharmacy (Medicinal and Poisonous Plants). The oral test to be conducted with specimens.	**Examination A—** 1. Anatomy of Domestic Ani (Bones and Ligaments onl 2. Chemistry. 3. Botany.
B Examination— 1. Anatomy of the Horse. 2. Comparative Anatomy and Physiology. 3. Physiology and Histology of the Horse.	**B Examination—** 1. Anatomy of the Domestic Animals. 2. Physiology and Histology. 3. Hygiene (Stable Management, Food Substances, Cereals, Grasses, Roots; Shoeing). The oral division will require specimens suitable to each subject.	**Examination B—** 1. Anatomy of Domestic Animal 2. Physiology and Histology. 3. Materia Medica and Th peutics.
C Examination— *Theoretical.* 1. Pathology and Bacteriology. 2. Medicine and Surgery: Horse. 3. Medicine and Surgery: Cattle. 4. Pathological Chemistry, Therapeutics, and Toxicology. *Practical.* To be arranged in accordance with the above scheme.	**C Examination—** 1. Morbid Anatomy, Bacteriology and Pathology. 2. Principles and Practice of Veterinary Medicine (including Therapeutics). 3. Principles and Practice of Veterinary Surgery (including Obstetrics).	**Examination C—** 1. Morbid Anatomy and Pathol 2. Veterinary Medicine and S gery: Horse. 3. Veterinary Medicine and S gery: Cattle. *Practical.* 4. Practical, Horse, including H giene, Shoeing, etc. 5. Practical, Cattle, including O stetrics.
A written and oral test at each examination. The written to consist of three questions, all of which must be attempted. Time allowed: each subject, one hour.	The oral division will embrace Examination for Soundness, Clinical Diagnosis, Conformation, and the Handling of Animals. Each subject to be tested by a written and an oral examination.	One examiner sufficient at followi Tables: Chemistry, Botany, Mater Medica. Examiners to be elected for th years. Each examination to be writt and oral.

The schemes arranged above are well worth careful consideration. They all differ in some degree from each other, and from the existing arrangement. Two of them differ considerably. No. V. provides four examinations on the basis of a four years' course of study, and No. VI. for the present three-years' course reduces the examinations to two. This reduction of examinations is brought about by omitting the A examination, and is logically correct, because it prevents men learning important sciences an pieces, and requires them when examined to show a fair and full understanding of chemistry, anatomy, and physiology. The objection to it is one of expediency—an acknowledgement that the average student will only work when he knows an examination awaits him at the end of each session.

The four-course plan increases the extent and thoroughness of the examinations. It shows at a glance where our graduates may now be supposed to be deficient, and requires from candidates knowledge that at present is always attained (or ought to be) after graduation. When the Colleges lengthen their course some such alteration of tests will be necessary.

Some of the alterations are almost unanimously agreed upon. In the A examination all but one add *muscles* to the portion of anatomy tested. No. I. qualifies this by confining the muscles to "the limbs." This recognises that, at any rate as far as the limbs go, bones, ligaments, and muscles must be learned together. Perhaps a point of agreement might be found by leaving the head and

PROFESSIONAL EXAMINATIONS.

chers, Examiners, and Practitioners.

IV.	V.	VI.
Examination— 1. Anatomy of Domestic Animal (Bones, Ligaments, and Muscles). 2. Chemistry. 3. Botany and Materia-Medica (Poisonous, Medicinal and Food Plants, and Mode of Preparation). Only one examiner at each of these tables.	A Examination— 1. Anatomy (Bones, Ligaments, and Muscles). 2. Chemistry. 3. Botany—viz.: Food Plants, Grasses, Cereals, Roots, Medicinal and Poisonous Plants. 4. Stable Management and Manipulation of Animals.	
Examination— 1. Anatomy of the Horse. 2. Comparative Anatomy. 3. Veterinary Physiology and Histology. One Examiner at each Table.	B Examination— 1. Anatomy of Domestic Animals. 2. Physiology and Histology. 3. Hygiene—viz.: Dietetics, Sanitation, Shoeing.	First Examination (at end of Second Year)— 1. Anatomy: Horse. 2. Anatomy: Comparative. 3. Chsmistry. 4. Physiology and Histology.
Examination— 1. Morbid Anatomy and Pathology. 2. Veterinary Medicine and Surgery: Horse. 3. Veterinary Medicine and Surgery: Cattle. 4. Hygiene. *Practical.* *Horse:* Lameness, Soundness, Diseases, Conformation, Fixing and Handling Animals, Shoeing, Operative Surgery. *Cattle:* Ditto, ditto.	C Examination— 1. Morbid Anatomy and Pathology. 2. Helminthology and Obstetrics. 3. Materia-Medica and Therapeutics, and Toxicology. 4. Nursing: Casting, Slinging, Preparation for Operations, Dressing, etc.	Final Examination— *Theoretical.* 1. Medicine and Surgery: Horse. 2. Medicine and Surgery: Ox, Sheep, Pig, and Dog. 3. Morbid Anatomy and Pathology. 4. Materia Medica and Pharmacy *Practical.* Stable Management, Shoeing, Surgery: Examining for Soundness, Conformation, etc.
Subjects 2 and 3 to have two examiners. Time at each Table, twenty minutes. Written and oral.	D Examination— 1. Vet. Medicine: Horse and Dog. 2. Vet. Surgery: Horse and Dog. 3. Vet. Medicine: Ox, Sheep, Pig 4. Vet. Surgery: Ox, Sheep, Pig. 5. Veterinary Sanitary Science: Meat Inspection and Bacteriology. *Practical.* Operative Surgery: Clinical Medicine: Examination for Soundness: Conformation and Marks.	

neck to the second examination. This division of the body is a very intricate one, containing as it does so many special organs closely related to muscles.

Three of the schemes omit botany, and two limit it to poisonous, medicinal, and food plants, which all admit must be required. Every one of the schemes includes hygiene as a necessary subject, but they differ in the position given to it. Some put it in A, some in B, and some in the C. examination. The second examination seems to be its proper place as it must naturally precede pathology, whilst it cannot well be learned unless taught *pari passu* with physiology.

Materia-Medica is another subject all desire but differ as to its place. Possibly the second year would be best but that is already too full, and therefore it may be taken at the end of the first. It is not a difficult subject, and assimilates well with the practical part of Botany which all desire.

Very little is added to the C examination, which is universally recognised as the one at which a man is to be tested as to his knowledge of disease. All are agreed that a *written and oral* test should be applied. A suggestion is made that Examiners should be elected for three instead of five years, and one gentleman thinks a reduction of the number of examiners might be made at some tables.

The best way to compare the schemes is to read right across the page—one examination at a time.

We should be obliged by any comments.

quite opposed to a fourth year—that is so far as regards spending that period at College on the subjects already taught is concerned. I think, having in view what is required of 95 per cent. of us, that the present period of study is ample. I do think, however, that it is possible to make a much better use of the time now occupied. I think students might well occupy their time 'tween-terms in making a decided effort in acquiring a knowledge of, for instance, shoeing, and in seeing practice. As you know, I think too much time is devoted to some subjects, too little to others, and that the remedy lies in a re-arrangement of the time devoted to examining on those subjects.

With one or two subjects of examination curtailed, others much accentuated, and with the addition at the final examination of what, for all practical purposes, may be called hygiene, I hold we have enough material for students to get a good grasp of, and which having got to the perfect satisfaction of our examiners, our minds may be easy as to the ultimate result. Students nowadays are taught more, and examined more than they were in the days when I and my compeers had to go through the mill, most of us have succeeded in establishing a reputation, based on what we learned, and have since learned ourselves, and if the graduates of the present day go and do likewise, bearing in mind what they are now taught, our profession will keep its place.

As in the past so in the future it will be, occasions will arise where men with special knowledge will be wanted, for the occasions we cannot in anticipation train a whole profession, nor expect those who enter it, to allow us to do so, but we can depend and I think always so, upon some men striking out a special line for themselves and rising up to fit such places. The number of such will never be great; for them it is not necessary for our council to legislate. I think the future of our profession is hopeful. it is not one where large fortunes are made, but I believe that it will always be one when some fortunate ones will do so, and the majority of the remainder a good and honourable hard earned livelihood; and that from among those now entering it there is abundance of good material to take the place of those of us, who in the certain course of nature are, I often think, somewhat too soon to leave it.

VETERINARY SOCIETIES.

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

A meeting of this Society was held on Wednesday afternoon, 11th November, in the London Hotel, St. Andrew Square, Edinburgh. Mr. C. CUNNINGHAM, presiding in the absence through illness of Mr. JAMES CLARK, President. After the minutes of last meeting had been read by the Secretary (Mr. PETER MOIR) and had been confirmed, ten new members were elected.

ELECTION OF OFFICE-BEARERS.

The next business taken up was the election of office-bearers for the ensuing session, and on the motion of PRINCIPAL WILLIAMS, Edinburgh, all the present office-bearers were re-elected.

Mr. RUTHERFORD, Edinburgh, said that since they had last met they had lost a member of the Society and a man very highly respected in the profession in the West of Scotland—he referred to Mr. MCDOUGAL, who had died suddenly about five or six weeks ago. He thought it would only be an act of courtesy on their part were they, as a Society, to move a resolution of condolence with his widow. This was agreed to.

The Secretary tabled a motion to the effect that life membership should be introduced among the Society's rules, and it was agreed to discuss the matter at next meeting.

Mr. RUTHERFORD referred to the annual subscription, and said that when he was Treasurer of the Society, he had felt that the annual subscription of 5/- was too small and was barely sufficient to pay their way. They could not take part in any demonstration, and that was not a position for such a society as theirs to be in. (Hear, hear). He proposed that the amount of the subscription should be increased, and remarked that it was quite as easy to collect half-a-guinea or 7/6 as it was to get the present subscription. Mr. Moir intimated that the Society had very little funds at present, but ultimately the matter was left over till the annual meeting.

The Chairman then exhibited some parts of the intestines of swine affected with swine fever. They were preserved in corrosive sublimate solution, which was a better mode, in his opinion, than preserving them in methylated spirits. He said that in this district, within a radius of a mile, there had been eleven outbreaks of swine fever, by which 370 pigs had been affected. He mentioned that he himself had killed about 250 pigs within the last month, and he had never seen swine fever so bad or of a more deadly nature than it had been within the last week. He exhibited some parts of the intestines with necrosed spots and thought that it was a matter that required discussing. Another thing that had not been discussed in this Society was the "open joint," and be thought it would make a very good subject.

THE PROPOSED NEW CHARTER.

Mr. RUTHERFORD, Edinburgh, then opened a discussion on the proposed New Veterinary Charter. He said it was well within their knowledge that within the last 18 months, or two years, a very considerable hue and cry had arisen in the profession as to the necessity for a new charter. In this charter, which was to be sent to the Privy Council, there were three principal items—the restoration of the rights of Members to hold office on the Council; the abolition of the dual appointment; and the election of Vice-Presidents by the Council out of members of the Council. He could not say that he agreed with these three clauses, but as it was rather different from what was asked, and as it was very probable that the great body of the profession would not be satisfied with it, he took this opportunity of bringing before their notice the present state of affairs. According to the draft every member of the profession was to have his rights restored as far as acting on the Council, and another matter was that a vice-president could be elected by the Council out of the members of the Council. These were important matters, and things which they had asked for and succeeded in obtaining in this charter. It had been hoped that the position of Examiner might have been left to ordinary Members not Fellows. He was just now speaking as a member of the profession and he was bound to say that this charter as it now stood would not long give that satisfaction to the profession

which it was supposed to do. (Applause.) He did not think that Members of the profession would be satisfied with being shut off from becoming examiners, and by this clause in the charter, as it now stood, Members who were not Fellows were debarred from being veterinary Examiners. He thought he had the greatest respect for the fellowship diploma, but there are plenty of men quite as capable of acting as examiners as the Fellows were. (Hear, hear.) The Members deserved as much respect as the Fellows. This charter as it now stood, contained the drawing of a most abominable distinction which was a most invidious one, would give great offence to the profession and would not be at all satisfactory. (Applause.) He thought it would be wise of this Society, at that meeting or at another meeting, to express its opinion fully, plainly and boldly; because there would be no use of going to the journals and the veterinary papers on the matter a year or two afterwards and saying—"we didn't know about it." They did know about it, and they should not lose their present opportunity. With regard to the other matter of the abolishing of the dual appointment he thought it was a great mistake indeed and a mistake in this way, that it was so utterly opposed to the very Liberal programme which was originally intended. It struck at many good members, and implied something about the Council which he hoped did not exist, and which the profession had always in their power to amend if it did exist. A most important matter was the representation of Scotland on the Council, and he hoped that members of the profession in Scotland would speak for themselves and see that there was a more satisfactory representation on the Council if Scotland demanded it. In England there were 1715 members, in Wales 63, in Scotland 444, and in Ireland there were 221 members. England had a solid majority of 31 members to every one which Scotland had representing her on the Council. He then went on to criticise some remarks in a leading article in that week's *Record*, and said that the whole of the electoral votes from Scotland could not put a man in unless they plumped for him and voted for nobody else. That was the present state of matters. It was not right that representatives of the colleges should sit on the Council as representing the general interest of Scotland. With all respect to his friend, Principal Williams, he would say that they were not there to represent Scotland, but to look after and represent the educational aspect of the profession. No doubt they took a great interest in the profession, but they were there only representing the rights of their students, and had no right to be there as representing the ordinary profession in Scotland. He concluded by proposing that Scotland have a better representation on the Council.

Principal WILLIAMS took notice of Mr. Rutherford's remark that the representatives of the Colleges did not represent the working body of the profession and only looked after educational matters. No doubt that was their true function, but his experience of the Council had been that the less a man knew of educational matters the more active a part he took in it. (Laughter). He was opposed to the abolition of dual appointments and could not for the life of him see any objection to dual appointments. He instanced the Edinburgh Town Council as a case in point, where men were elected to the Council and were then made into Provost or Bailie. Now these men were elected from within the Council and why should they differ? Then with regard to the abolition of the claims of the Fellows only to be members of Council, he said that many years ago he fought for that, and had always been of opinion that when a man became a member of the profession he had a right to all the honours of that profession. It was the aspiration of every member of the profession to be selected by his fellows to represent them in the Parliament of the profession. With regard to the examinerships he thought that if a man devoted his time to the interests of the profession, travelling from North to South, that that man was more entitled to the honour of being an examiner than an ordinary member of the profession who spent no money for the benefit of the profession. He thought that strong views should go forth from the meeting on that point. They should not ask too much, and he feared very much that the opposition would be too strong for them He would give his support to any motion for the better representation of Scotland on the Council. It certainly deserved it, as it had done a great deal for the profession. He saw a difficulty in the matter, but he thought there was no hurry and that it should be left over till the annual meeting, when they could consider the questions clearly and lay the result of the discussion before the Council.

In reply to the Chairman, Principal WILLIAMS said the difficulty he saw was in bringing the matter forward, not in working it out.

Mr. RUTHERFORD said they seemed to be taking alarm when they gave them a leading article on it.

Mr. SPROULL, Dundee, in the course of a few remarks, advocated that the examining power should be free to anybody.

Mr. CAMERON, Berwick-on-Tweed, called attention to a matter in connection with the voting papers which required reformation. He pointed out that the voting papers were sent out so late that there was barely time to return them in time, far less giving one time to know what selection to make. In the meantime he saw no reason why their Secretary should not combine with the secretaries of other associations in Scotland so as to make a united effort and have a poll upon the whole question. He thought they should combine themselves and make their voice not only heard but felt.

Mr. RUTHERFORD thought they should have a large meeting of the profession; there was no use their workings single handed. At their annual meeting they could have a conference with the other societies and the West of Scotland gentlemen. The Border Counties had said they would be very happy to work with their Society.

The matter then dropped, it being understood that the subject would be brought before the Annual Meeting of the Society.

ANIMAL PARASITES OF THE SKIN.

By Professor DE JONG, New Vet. Coll: Edin.

In this paper I intend to confine myself to some of the principal animal parasites of the skin of our domesticated animals. The skin, more than any other tissue or organ, is liable to the attacks of parasites, on account of its peripheral situation and its contact with the external world.

Parasitic diseases of the skin are due to organisms from both the vegetable and the animal kingdoms; but it is to the latter that I wish to draw your attention to-day. These are known as *dermatozoa*, in contradistinction to *dermatophyta*, the term applied to those derived from the vegetable kingdom. The dermatozoa belong principally to that branch of the animal kingdom termed *arthropoda* which contains two great classes, viz., *insecta* and *arachnoida*; the main differences between them being, that insects are provided with three pairs of legs, and have their body distinctly divided into head, thorax, and abdomen; the head carries a pair of antennæ and the thorax the *three* pairs of legs and usually two pairs of wings. In arachnoids there is no such division of the body, and the adults have *four* pairs of legs but never have wings.

The class *insecta* furnishes us with a number of parasites which affect the skin. Those which deserve our first

notice are the *diptera* or two-winged insects, fleas and lice. The *diptera* do not in their adult stage take up their residence in the skin, but they pay occasional visits to the animal for the purpose of sucking its blood or depositing their eggs on or in the skin. One result of this is that during the prevalence of a contagious disease it is propagated by inoculation of the virus in this manner from a diseased to a healthy animal.

You are all well aware of the alarming symptoms sometimes caused by these flies, for example, when a herd of cattle are attacked by the gad-fly they rush furiously up and down the pastures, and it is said the mere buzzing of the insects is sufficient to render yoked animals quite unmanageable (Williams). The larvæ of some kinds of diptera are even more dangerous than the adults, and more truly parasitic as they take up their residence in certain tissues. Perhaps the principal of those which have for their habitat the skin are the larvæ of the so-called oestrides or bot flies. The well-known "warble" is a tumour produced by a dipterous insect, the oestrus bovis, in its larval stage When the larvæ have obtained their full development, they escape from the tumours and fall to the earth, where they shelter themselves until they assume the chrysalis state, and finally become the adult flies (imago); and so the life-history goes so.

The gad-flywhich attacks the horse is called the *oestrus equi;* it acquires its larval condition within the stomach of the horse, forming the so-called "bots."

The class epizoa includes the various forms of fleas and lice. Fleas are parasitic to mammals and to birds and live on the blood which they suck. The hosts which they most commonly favour are the dog, cat, pigeon and farmyard fowl. The female flea lays abont a score of eggs in any convenient place, between cracks of boards, etc. These eggs are hatched in about six days in warm weather and from nine to twelve in cold weather, and develop whitish worm-like larvæ, composed of about 13 segments. Towards the eleventh day these spin a cocoon, change their skin, and finally proceed through the chrysalis stage to that of the perfect insect The species of flea which lives on man is named *pulix irritans* and it is often conveyed to dogs and cats. That which lives on dogs receives the name of *pulex serrraticeps* being also, but less frequently, found on cats.

Pediculi—Lice, are small wingless i sects varying in colour, sometimes white or grey, sometimes brown or red. They are provided with mouths, in some varieties for biting and in others for puncturing the skin. The eggs commonly called "nits" are pear-shaped bodies, which adhere to the hairs by a sticky material, and which have at one extremity a lid (operculum) through which the young emerge. The young have the same conformation as the adults, and therefore, unlike flies, do not pass through a series of metamorphoses. The females are usually much larger than the males and more numerous. The term "phthiriasis" is employed to express any disease of the skin due to the presence of the different varieties of lice. Two varieties of lice attack the domesticated animals, viz., *trichodectes* and *hæmatopinus*, in addition to which there is the so-called sheep tick, the *melophagus ovinus*. The *trichodectes* are characterised by the broad head furnished with mandibles by which they bite; whereas, the *hæmatopinus* has a long pointed head and a proboscis for puncturing the skin and sucking the blood. Thus the injuries effected by species of trichodectes are not as decided as that caused by those of hæmatopinus, the germs to which the true lice belong. Horses are infested with one species of hæmatopinus and two of trichodectes, viz., *H. macrocephalus*, *T. pilosus*, and *T. parumpilosus*. Cattle with two species of hæmatopinus and one of trichodectes, viz., *H. Eurysternus*, *H. temicrostris*, and *T. scabaris;* sheep with only one variety, the *T. spherocephalus* or *T. ovis*, in addition to which there is the so-called sheep tick, kid or fag, the melophagus ovinus.

Phthiriasis in the sheep has been mistaken for mange or scab, and therefore I may point out to you one or two of the main differences by which the louse can easily be distinguished from the acarus producing scab, the *Dermatodictes ovis*. In the first place lice belong to the insecta and therefore are provided with only *three* pairs of legs whereas the mange-mites (acari) belong to the arachnida and are provided with *four* pairs of legs. That difference alone would enable anybody who took the trouble to examine the parasite under a microscope or an ordinary magnifying glass, to identify it, and doubtless in many cases, by so doing to save a deal of annoyance and expense. Another great difference is that in insects the body is distinctly divided into a head, thorax and abdomen, whereas in acari the body is not so divided, but consists of a common mass surmounted by a mouth adapted for cutting or sucking, according to the habits of the animal. The sheep-louse is quite small, about one-twenty-fifth of an inch in length, the female being slightly longer and larger. It is charcterised by its reddish head and the pale transverse bands which cross the abdomen. The life-history is the same as already described for lice in general, the eggs being cemented to wool fibres.

One of the best known of all the external parasites of sheep is the so-called sheep tick, melophagus ovinus. It is not a true tick as it has only three pairs of legs, whereas the true ticks are more closely related to spiders and have *four* pairs of legs in their adult state. The "kid" as it is often called is a wingless fly, the adults being less than a quarter of an inch long and having a short, flattened, bristly, leathery body. Their head is provided with a probocis by which they perforate the skin and suck the blood. The life-history of the family of flies to which this parasite belongs is rather peculiar and therefore I will take the liberty of describing it. The females bring forth their young as *puparia*. These are laid as glistening seed-like eggs and contain an imperfectly developed larva within them. Some authorities say that each female produces only one or two puparia; whilst others say they can lay about eight or nine during their life-time. The insect emerges with adult characters from the pupæ cases through an opening at one end of the case made by a round lid splitting off and then wanders into the wool.

The pig is infested with one variety of lice, viz., the *hæmatopinus urius or suis*.

The dog is affected with a variety of hœmatopinus, (*H. piliferus*) and also with one of trichodectes, (*T. latus*). The latter is of great importance as it harbours the cystic stage (*cystercercus canis*) of a common tape worm of the dog. *Tænia cucumerina*. In the cat is found only a single variety of louse, *T. subrostratus*.

The next great class of parasites which infest the skin are included in the arachnida—the chief characters of which I have already described—and to a sub-order termed acari. The acari or so-called mites may be divided into two kinds; firstly, those whose presence does not cause any particular disease, merely using their host as a means of conveyance or living on the epidermal debris and the natural excretions of the skin or sucking the blood of the animal which they infest; and secondly those which excite the peculiar disease known as "itch" in man or mange in the lower animals, and it is to this latter class that the term mange-mites strictly applies.

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themselves to passing animals, sometimes only for a means of conveyance and at other times to suck the blood. They are provided with an armed proboscis by which they bore into the skin and suck the blood of their host. When the female ticks become sufficiently engorged with blood they fall to the ground and lay their eggs. The six-legged larvæ which emerge from the eggs are very small and become transformed into "nymphes." These are distinguished from the larva by their greater size and having the fourth pair of legs developed, and from the adults by the absence of sexual organs. They fix themselves in the skin of their host and finally fall to the ground, when they develop their sexual organs. The males meet the females either on the ground or on the animal, and so the life history goes on. All animals are liable to be attacked by ticks. The commonest variety met with in dogs, sheep, cattle and horses is the *ixodes ricinus*, so called from its resemblance to a castor oil seed. Another variety *ixodes redvius* attacks principally sheep and cattle. The disease known as Louping-Ill is due to the introduction of a vegetable organism within the system of sheep by means of ticks (Williams).

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Their body is round or oval, and the legs are short, thick, and conical ; the two posterior pairs are completely, or almost completely hidden when the dorsal surface of the mite is exposed—the situation of the limbs being indicated only by the protrusion of a pair of long-pointed hairs. Exactly opposite of this is the case in the symbiotes and psoroptes, the hind legs being enormously long.

The *Psoroptes* have an oval body, the legs are thick and quite visible outside the margin of the body ; their suckers are borne by a long, three-jointed pedicle, and the head is characteristic, being long and pointed.

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Species of each of these genera is found affecting the horse—viz. : Sarcoptic mange due to the *sarcoptes scabici equi*. This form of mange is not at all common, but it existed a few years ago in the Shetland Islands, where it is now under the Contagious Diseases (Animals) Act. Psoroptic mange, due to the *psoroptes equi*, is the commonest form of mange affecting the horse. The parasites are generally larger than sarcoptes—their head is long and pointed, and their legs much longer, excepting the fourth pair in the male, which are merely rudimentary organs. Unlike the sarcoptes, they do not burrow or make galleries, but cling to the hair and wander over the skin, feeding on the scales and debris, and occasionally sucking minute quantities of blood. Symbiotic mange due to the *symbiotis equi* is confined to the legs, especially the hind ones. Like the psoroptis, it lives on the surface—on the hairs and among the scabs.

Mange in Cattle.—Sarcoptic mange may affect cattle, but is indeed very rare. The ordinary mange is due to the *dermatodictis bovis* ; symbiotic mange, due to the *symbiotis bovis*, is confined in cattle to the root of the tail. Sheep are affected with the three varieties of mange. Sarcoptic, due to the *sarcoptes scabici ovis*, is usually confined to the head. The symbiotic mange, due to *symbiotis ovis* is of rare occurrence, and has for its seat the feet and legs. Ordinary mange in sheep, known as scab, is due to the dermatodictes ovis, and is under the Contagious Diseases (Animals') Act, which provides that it is unlawful to move by land or water any sheep affected with the disease or suspected of being so affected. And, moreover, every person having in his possession a diseased sheep is bound to have it treated with some dressing used for the cure of scab. The pig only presents a single species of mange, the sacoptic form due to the *sarcoptes scabicis suis*. Three kinds of mange are met with in the dog—scarcoptic; symbiotic affecting the ears, and demodictic due to an acarus belonging to the family of follicle mites.

This family *Dimodicictæ* contains one genus, demodix, and one species *Dm. folliculorum*. These acari live in the hair follicles amd sebaceous glands of several species of mammals. The parasite is oval in shape, and has four pairs of legs. The life-history is the same as that of the other acari which I have described. First—the eggs, and from these the young six-legged mites are hatched, and after a change of skin the fourth pair are developed. They are miscropic objects—the female does not exceed 400 micro-millimetres in length, and the breadth varies between 40 and 55. In man the dimodix is found in the follicles of the face, but it does not seem to cause any inconvenience. Dogs, cats, and pigs, are also affected with demodix, whfch is termed respectively—

D. folliculorum	...	var. canis
„ „	...	var. cati.
„ „	...	var. suis.

In the pig the parasites cause a pustular affection. Dogs seem to suffer more than than any other animal from the disease.

In conclusion, gentlemen, I must thank you for your kind attention, and hope that we may be benefited by the discussion which will follow.

At the conclusion of the paper, Professor De Jong received a vote of thanks, discussion being deferred until next meeting.

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ROYAL COLLEGE V.M.A.

The 105th Ordinary General Meeting of the Association was held in the Theatre of the College on Wednesday, November 18th, at 6.30 p.m. there being present 49 members and 15 visitors ; Mr. H. W. Dollar in the chair. Several morbid specimens were introduced, and an essay was read by Mr. F. W. Evans on "The Uses of Hot and Cold Water."

He stated that there was a certain want of success in

notice are the *diptera* or two-winged insects, fleas and lice. The *diptera* do not in their adult stage take up their residence in the skin, but they pay occasional visits to the animal for the purpose of sucking its blood or depositing their eggs on or in the skin. One result of this is that during the prevalence of a contagious disease it is propagated by inoculation of the virus in this manner from a diseased to a healthy animal.

You are all well aware of the alarming symptoms sometimes caused by these flies, for example, when a herd of cattle are attacked by the gad-fly they rush furiously up and down the pastures, and it is said the mere buzzing of the insects is sufficient to render yoked animals quite unmanageable (Williams). The larvæ of some kinds of diptera are even more dangerous than the adults, and more truly parasitic as they take up their residence in certain tissues. Perhaps the principal of those which have for their habitat the skin are the larvæ of the so-called oestrides or bot flies. The well-known "warble" is a tumour produced by a dipterous insect, the oestrus bovis, in its larval stage When the larvæ have obtained their full development, they escape from the tumours and fall to the earth, where they shelter themselves until they assume the chrysalis state, and finally become the adult flies (imago); and so the life-history goes so.

The gad-flywhich attacks the horse is called the *oestrus equi*; it acquires its larval condition within the stomach of the horse, forming the so-called "bots."

The class epizoa includes the various forms of fleas and lice. Fleas are parasitic to mammals and to birds and live on the blood which they suck. The hosts which they most commonly favour are the dog, cat, pigeon and farmyard fowl. The female flea lays abont a score of eggs in any convenient place, between cracks of boards, etc. These eggs are hatched in about six days in warm weather and from nine to twelve in cold weather, and develop whitish worm-like larvæ, composed of about 13 segments. Towards the eleventh day these spin a cocoon, change their skin, and finally proceed through the chrysalis stage to that of the perfect insect The species of flea which lives on man is named *pulix irritans* and it is often conveyed to dogs and cats. That which lives on dogs receives the name of *pulex serrraticeps* being also, but less frequently, found on cats.

Pediculi—Lice, are small wingless i sects varying in colour, sometimes white or grey, sometimes brown or red. They are provided with mouths, in some varieties for biting and in others for puncturing the skin. The eggs commonly called "nits" are pear-shaped bodies, which adhere to the hairs by a sticky material, and which have at one extremity a lid (operculum) through which the young emerge. The young have the same conformation as the adults, and therefore, unlike flies, do not pass through a series of metamorphoses. The females are usually much larger than the males and more numerous. The term "phthiriasis" is employed to express any disease of the skin due to the presence of the different varieties of lice. Two varieties of lice attack the domesticated animals, viz., *trichodectes* and *hæmatopinus*, in addition to which there is the so-called sheep tick, the *melophagus ovinus*. The *trichodectes* are characterised by the broad head furnished with mandibles by which they bite; whereas, the *hæmatopinus* has a long pointed head and a proboscis for puncturing the skin and sucking the blood. Thus the injuries effected by species of trichodectes are not as decided as that caused by those of hæmatopinus, the germs to which the true lice belong. Horses are infested with one species of hæmatopinus and two of trichodectes, viz., *H. macrocephalus*, *T. pilosus*, and *T. parumpilosus*. Cattle with two species of hæmatopinus and one of trichodectes, viz., *H. Eurysternus*, *H. temicrostris*, and *T. scabaris*; sheep with only one variety, the *T. spherocephalus* or *T. ovis*, in addition to which there is the so-called sheep tick, kid or fag, the melophagus ovinus.

Phthiriasis in the sheep has been mistaken for mange or scab, and therefore I may point out to you one or two of the main differences by which the louse can easily be distinguished from the acarus producing scab, the *Dermatodictes ovis*. In the first place lice belong to the insecta and therefore are provided with only *three* pairs of legs whereas the mange-mites (acari) belong to the arachnida and are provided with *four* pairs of legs. That difference alone would enable anybody who took the trouble to examine the parasite under a microscope or an ordinary magnifying glass, to identify it, and doubtless in many cases, by so doing to save a deal of annoyance and expense. Another great difference is that in insects the body is distinctly divided into a head, thorax and abdomen, whereas in acari the body is not so divided, but consists of a common mass surmounted by a mouth adapted for cutting or sucking, according to the habits of the animal. The sheep-louse is quite small, about one-twenty-fifth of an inch in length, the female being slightly longer and larger. It is charcterised by its reddish head and the pale transverse bands which cross the abdomen. The life-history is the same as already described for lice in general, the eggs being cemented to wool fibres.

One of the best known of all the external parasites of sheep is the so-called sheep tick, melophagus ovinus. It is not a true tick as it has only three pairs of legs, whereas the true ticks are more closely related to spiders and have *four* pairs of legs in their adult state. The "kid" as it is often called is a wingless fly, the adults being less than a quarter of an inch long and having a short, flattened, bristly, leathery body. Their head is provided with a probocis by which they perforate the skin and suck the blood. The life-history of the family of flies to which this parasite belongs is rather peculiar and therefore I will take the liberty of describing it. The females bring forth their young as *puparia*. These are laid as glistening seed-like eggs and contain an imperfectly developed larva within them. Some authorities say that each female produces only one or two puparia; whilst others say they can lay about eight or nine during their life-time. The insect emerges with adult characters from the pupæ cases through an opening at one end of the case made by a round lid splitting off and then wanders into the wool.

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He stated that there was a certain want of success in

the use of the bath in many illnesses of our animals, mainly due to the difficulty in getting them dry again on account of the length of hair covering their bodies. *Cold sponging* had been tried but had not met with universal success. "*Packing*" was much used in parturient apoplexy with the object of increasing cutaneous circulation; and also in cases of poisoning by the application of excess of carbolic dressings in skin diseases. Hot and cold affusions, alternately used, are of value in cases of poisoning by hydrocyanic acid or laburnum, also when excess of chloroform has been administered, the action being a reflex one.

Cold water is used locally before the operation of neurotomy, and in laminitis the application of ice poultices had been used with good results. In atrophy of the muscles its tonic effect is well known; and in open joint it is of great value.

Hot water causes dilation of the small vessels; when over 115 degrees it has an anæsthetic effect, doubtless due to some molecular change in the nerve fibres. It is also frequently used as a counter-irritant in colic. (The essayist here described a form of bandage used with success externally in pneumonia).

Steam inhalations are of service in diseased conditions of the mucous membranes, the warmth and moisture increasing the action of the ciliated epithelium in the respiratory tubes. Enemas cause distention of the gut, break down hardened fœces, and increase peristalsis.

A lively discussion was immediately commenced and well maintained until the close of the meeting, which took place after votes of thanks had been passed to the essayist and chairman.

At a crowded meeting of the above Society, held in the College Theatre at 6.30 p.m., on Wednesday, November 25th, the following resolution was unanimously passed.

"That this meeting, fully recognising the danger to both human and animal life from the existence of farcied horses, fully sympathises with the action of the London Horse Owners in regard to this disease."

An Essay on "The Parasites of the Horse" was read by Mr. Harris.

A definition of the term "Parasite" was first given; then followed a description of the "Œstridæ" as being one of the chief orders affecting the horse. He described the common "Gad Fly" and its mode of gaining access to the stomach where it collects in the form of "Bots" around the Cardiac orifice; the reason for its appearance mostly at this end being the need of air.

"Bots" cause great inconvenience in three ways:—

1. By blocking the Pylorus.
2. The Peripheral irritation may cause Tetanus and Epilepsy.
3. By the extensive surface they occupy and the consequent irritation they cause.

The best treatment for these is to give strong solution of Iodine, 1-oz., in warm water, followed by a purgative, both to be given fasting. Liberal diet and tonics to be afterwards administered.

Ascaris Megalocephalus is found chiefly at the small gut, and perforates the walls of the intestine; are often in enormous numbers; cause colic, indigestion, enteritis, and urino genital irritation.

Treatment: Aloes, 2-dr., followed by ol. terebinth, 2-oz., the next day.

Of the *strongylus tetrdcanthus*, the life history is not yet thoroughly understood; it reaches the intestine and gets into the lumen, where it casts its skin. It has been known as an epidemic amongst mountain ponies, causing death from anæmia and exhaustion.

To treat this parasite give aloes barb., 2-dr., and Fe. sulph., 2-dr., every other day; at the same time give tonics. Watch the case carefully, as the intestines often bleed.

The Essayist then mentioned strongylus armatus and oxyuris curvula, giving certain facts about each.

The general treatment he summed up as follows: Attend well to hygiene; give rock salt. Male fern and saintonin are good for round worm, areca nut for tænia. Ol. terebinth of use in nearly all cases.

In the discussion which followed a great many of the members joined, the proceedings being brought to a close by votes of thanks to the Essayist and Chairman, proposed by Mr. Blake and seconded by Mr. Broad.

At a Council Meeting held afterwards in the Board Room it was unanimously decided that the sum of £5 5s. be subscribed to the "Steel" Memorial Fund.

The subjects for prize competition during the ensuing year were then chosen. T. Hobday, *Assist. Sec.*

ARMY VETERINARY DEPARTMENT.

Changes of Station.

Vet-Lieut. Braddell, Limerick; to Cahir. Vet.-Lieut. Tatam, Aldershot; to Brighton.

Vet.-Capt. E. E. Bennett was on Tuesday called to the Bar as a Fellow of the Honourable Society of Lincoln's Inn. This officer has also within the last few years obtained the diploma of the Royal Agricultural Society of England, and the fellowship degree of the Royal College of Veterinary Surgeons.

Vet.-Capt. J. K. Grainger, superintendent of horse-breeding operations, Bombay Presidency, has obtained leave to England, for two years, on private affairs.

The Times of India says:—"It has been decided that all batteries of artillery in this (Bombay) Presidency, in need of horses for the completion of their establishment, shall be supplied next spring from the Calcutta Depôt, and to enable a comparison to be made between the present and proposed systems, a report is to be furnished from all batteries, showing the casualties among Australians thus issued, and the cause of each casualty."

"The Government of India have sanctioned farrier non-commissioned officers transferred to the unattached list for duty in station veterinary hospitals, being permitted to receive family allowance, although their emoluments may exceed Rs100 a month."

"The two State elephants which have figured in so many processions when Viceroys have had to appear with a certain amount of oriental pomp and circumstance, have just died at Meerut from anthrax. Their value was roughly £1,000 each, and some difficulty will probably be experienced in replacing such really fine and intelligent animals."

We hope that the veterinary surgeon who attended these valuable animals, will take an early opportunity of giving the profession a detailed account of these "cases."

EXTRACTS AND NOTES.

CHARGE OF CRUELTY AGAINST A REGISTERED PRACTITIONER.

William Knight was summoned for cruelty to a horse by causing it to be travelled when in an unfit state, at Hove, on September 18th.

Mr. F. T. Pearson defended.

The information was laid at the instance of Inspector Luff, of the R.S.P.C.A.

Police-Constable Cook stated that about the 18th September he saw the defendant's man, named Phillips, leading a mare along Church Road. The animal was in a very lame state, and he stopped it at the top of the First Avenue. On examining the mare he found a wound just above the hoof on the off fore foot, from which blood and matter was running.

By Mr. Pearson: The animal was going at a walking pace behind a loaded coat.

Sergeant Wingate said he saw the animal on Sept. 18. It could hardly stand and blood oozed from its hoof when it put its foot on the ground. In company with a veterinary surgeon he afterwards saw the mare.

George Phillips, a labourer, of 53 Clarendon Road, Hove, said he was in the employ of the defendant on the day named. He took the mare on September 18th from Castle Street, Preston Street, and was going to Portslade when he was stopped by the constable. The animal had been fired and was lame. A little blood oozed from a wound on the off fore-hoof but not much. Two little streaks of blood ran down the hoof when the animal put its foot to the ground.

In cross-examination by Mr. Pearson, witness said the mare did not seem to be in great pain. No one drew his attention to the animal until the constable stopped him. He travelled at the rate of about two or two-and-a-half miles an hour. The animal went very quietly, and as far as he could say it was not in actual pain.

John T. Cattle, a livery-stable keeper, deposed that he saw the mare about five o'clock on the day named. She was very lame and had been fired. Blood oozed from a cut above the hoof of the off fore foot. She was not then in a fit condltion to travel on the road.—Replying to Mr. Pearson, witness said he did not think there was any cruelty in walking the mare at the rate of from two to two-and-a-half miles an hour.

Mr. John Morton, M.R.C.V.S., of Brighton, said he saw the mare on the night of September 18th. She was then very lame and had been deeply fired.—In answer to the Clerk, Mr. Morton said, in his judgment, it was an act of cruelty to travel the mare in the condition he saw it.

Cross-examined: It would not have been an act of cruelty to have travelled the horse a short distance.

Mr. Pearson, in his address for the defence, explained that in June last his client, who was a veterinary surgeon, had the mare sent to him for treatment. It had injured its off foot through jumping on to a barbed wire. In consequence of this there was a horny excrescence from which suppuration always followed, more or less. He submitted that there had been no cruelty in the sense mentioned by the act.

The Clerk said the section under which these proceedings were taken said the cruelty must be wilful.

Mr. Pearson, called Mr. Alfred Scott, veterinary surgeon, of Lewes, who stated that he saw the horse that morning and had her walked. She was perfectly sound. Speaking from his experience he should not have considered it an unreasonable thing to have walked the mare a distance of three miles at the rate of two-and-a-half miles an hour a week after the animal had been fired.

Mr. Pearson intimated that the mare was fired on the 7th, and the offence alleged took place on September 18th.

Mr. Wood, M.R.C.V.S., having given evidence, the Bench considered there was no intentional cruelty, and the case was dismissed.

Mr. Pearson asked for costs, which were refused.

"THE STUDENT."

We have received No. 1 of the new periodical launched by the students at the Royal Veterinary College. It is an unpretensious four pages of notes and gossip about the work and play of the pupils. Its tendency is altogether good, and its tone all that can be desired. We trust those for whom it is written will support the efforts of those by whom it is conducted. Everything which promotes a good *esprit de corps* in a collective body is an advantage, and in this connection we note that the Students' Smoking Concert takes place on December 3rd, at the Stanley Hall, Junction Road, Highgate. May it pass off as successfully as it did last year. Members of the profession are welcome to attend.

Veterinarian and Artist.

On the occasion of the meet of the Atherstone Hounds on Thursday at Cliffe House, the residence of the late master, Mr. W. E. Oakeley, the new master and other friends presented him with a testimonial in commemoration of the many services he had rendered to the hunt. It consisted of an exquisitely-modelled statuette in silver of Mr. Oakeley mounted on one of his favourite hunters, and was the work of Mr. Adrian Jones (late A.V.D.), whose paintings and sculptures of similar subjects find much favour among hunting men.

Drugging Horses

The Lincolnshire Association for the Prevention of the Administration Poisoof nous Drugs to Horses held its annual meeting on November 13. Mr. F. C. Marshall presiding. The Right Hon. Henry Chaplin was elected chairman for the ensuing year. The association has 230 members. Proceedings had been taken in one case only during the year. A balance in hand of £144 was reported.

CORRESPONDENCE.

THE CHARGE OF CRUELLY DOCKING.

SIR,

I was surprised to see in your last issue the remarks made by a F.R.C.V.S. He says the hœmorrhage from a docked tail *should* have been stopped by a hot iron.

The actual cautery to my mind is a very primitive method of allaying hœmorrhage. It is a very common practice in these parts to tie a ligature around the tail,

about an inch or so above the docking. We sucessfully dock a large number of horses in this practice and rarely use the actual cautery. The blacksmith made the mistake of leaving the ligature on too long, six hours is quite sufficient to allay the hæmorrhage. Nevertheless I am of opinion that horses should not be docked by unqualified men, especially such bunglers as John Taylor appears to be.—Yours truly, E. P. Owen, M.R.C.V.S.

Truro.

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VETERINARY EDUCATION.

Sir,

May I, as a young member of the profession, be allowed to endorse the views expounded in Capt. F. Raymond's paper in last week's *Record*. I feel convinced that it would be entirely to the interest of the profession, and particularly to those who anticipate becoming members of the same, if the standard of education were raised and the period of study prolonged. In my opinion the inferior standard of education required of intending graduates is the chief reason why our position socially is not what it ought to be, though I admit it is better than it was. Intellectual ability seldom fails to secure respect, and the more highly educated our members become the higher will their social position be. If we content ourselves by lagging behind all other professions in the matter of education it is absolutely useless for us to hope to advance even "a little in public estimation." The life of the average practitioner is so busy that studying is almost an impossibility—at least, such is my experience. It is, therefore, highly essential that a high-standard educational foundation be laid before entering College. Besides, how much pleasanter and easier studying is to a well-educated student than to one who has simply sufficient ability to pass the paltry preliminary examination that we demand now. I hope the Council will not unnecessarily postpone considering the subject.

Yours, etc., Country.

Communications, Books, and Papers received:—Messrs. W. F. Greenhalgh, J. H. Parker, R. Rutherford, O. T. Williams, G. S. Harris, J, S. Hurndall, E. P. Owen, F. Hobday, A. Richardson. "Portsmouth Evening News."

Several important communications are unavoidably held over.

Original articles and reports should be written on one side only of the paper, and auth enticated by the names and addresses of the writers, not necessarily for publication.

We shall be obliged by early intelligance of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers, containing facts of interest.

Communications for the Editor to be addressed 20 Fulham Road, S.W.

Veterinary Societies—Addresses.

Bombay V.M.A.

Pres

Hon. Sec: S. K. Nariman, Esq., M.D., B.S.C., L.V.SC.

Off Hon. Sec: Mr. J. D. Parokh, G.B.V.C., Bombay Vet. Coll.

Border Counties V.M.S.

Pres: Mr. J. Pender, M.R.C.V.S., Lockerbie.

Hon. Sec: Mr. J. Armstrong, M.R.C.V.S., Penrith, Cumberland

Meetings, Second Friday of Feb., June, and October.

Calcutta V.M.A.

Pres: Mr. Greenhill, M.R.C.V.S.

Hon. Sec: Mr. T. Assheton Smith, 156 Dhurrumtollah.

Central V.M.A.

Pres: Mr. W. Roots, M.R.C.V.S.,
13 Winchester Street, London, S.E.

Hon. Sec: Mr. H. G. Rogers, M.R.C.V.S.,
170 Brompton Road, London, S.W.

Meetings, First Thursday in each month, except August and September, First Avenue Hotel, Holborn, at 7 p.m

Eastern Counties V·M.A.

Pres: Mr. Wm. Bower, M.R.C.V.S., East Rudham, Swaffham.

Hon. Sec.: Mr. R. S. Barcham, M.R.C.V.S., North Walsham.

Meetings, Second Tuesday, Feb. and July.

Vet. Med. Assn. of Ireland.

Pres: Mr. C. Steel, F.R.C.V.S., 188 Clonliffe-road, Dublin.

Hon. Sec: Mr. J. McKenny, M.R.C.V.S.,
116 Stephens-green-west, Dublin.

Lancashire V.M.A.

Pres: Mr. A. Leather, F.R.C.V.S., Tariff-street, Liverpool.

Hon. Sec: Mr. G. Gartside Mayor, F.R.C.V.S.,
Kirkham, Preston.

Meetings, 2nd Wednesday in March, June, Sept., & Dec.

Lincolnshire V.M.S.

Pres: Mr. F. L. Gooch, F.R.C.V.S., Stamford, Lincolnshire

Hon. Sec: Mr. J. Smith, M.R.C.V.S., Huntingdon.

Meetings, Second Thursday, Feb., June and October.

Midland Counties V.M.A.

Pres: Mr. John Malcolm, F.R.C.V.S.,
Holiday-street Wharf, Birmngham.

Hon. Sec: Mr. H. J. Dawes, M.R.C.V.S.,
High St,. West Bromwich.

Meetings, Second Friday in Feb., May, Aug, and Nov.

National Vet. Association.

Pres: Prof. J. McCall, Veterinary College, Buccleuch St., Glasgow

Sec: Mr. John Malcolm, F.R.C.V.S., Birmingham.

Treas. and Chairman of Prov. Com: Mr. S. Wragg, F.R.C.V.S.,
17 Church-lane, Whitechapel.

North of England V.M.A.

Pres: Mr. A. Hunter, F.R.C.V.S., Newcastle-on-Tyne.

Hon. Sec: Mr. W. A. Hancock, M.R.C.V.S.,
Forest Hall, Newcastle-on-Tyne.

Meetings, Third Friday, Feb., May, Aug. and Nov.

Royal Counties V.M.A.

Pres: Mr. W. Wilson, F.R.C.V.S., Berkhampstead, Herts.

Hon. Sec: Mr. H. Kidd, F.R.C.V.S., Hungerford, Berks.

Meetings, Last Friday, Feb., June and Nov.

Royal Scottish V.S.

Pres: Mr. Reid, M.R.C.V.S., Auchtermuchty.

Hon. Sec: Mr. W. D. Fairbairn, M.R.C.V.S., Cupar, Fifeshire

Royal Veterinary College M.A.

Pres: Mr. Wild.

Hon. Sec: Prof. Shave.

Scottish Metropolitan V.M.S.

Pres: Mr. Jas. Clarke, F.R.C.V.S., Coupar-Angus.

Hon. Sec: Mr. P. Moir, M.R.C.V.S., 9 Kilmain Terr. Edinbro'

South Durham and North Yorkshire V.M.A.

Pres.& Hon. Sec: Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees.

Assistant Hon. Sec: Mr. W. N. Dobbing, M.R.C.V.S.

Meetings, First Friday, Mar., June. Sept. and Dec.

Southern Counties V.M.S.

Pres: Mr. E. A. Hollingham, M.R.C.V.S.,
79 Anerley Road, London, S.E.

Hon. Sec: Mr. C. Pack, M.R.C.V.S., Lymington, Hants.

Meetings, Last Thursday, Mar., June and Sept.

Western Counties V.M.A.

Pres: Mr. W. Penhale, F.R.C.V.S., Barnstaple, Devon.

Hon. Sec: Mr. W. Harvey Bloye, M.R.C.V.S.,
Week Street, Plymouth.

Meetings, Third Thursday, March and September.

West of Scotland V.M.A.

Pres: Mr. D. Allan, M.R.C.V.S., Clarkston-by-Busby, Glasgow

Hon. Sec: Mr. W. Anderson, F.R.C.V.S., West Nile-st. Glasgow

Yorkshire V.M.A.

Pres: Mr. T. C. Toope, M.RC.V.S., Knaresborough.

Hon. Sec: W. F. Greenhalgh, M.R.C.V.S., Hunslet, Leeds.

Meetings, Last Friday in Jan., April, July, and October.